

REMARKS

The Examiner has subjected this application to restriction under 35 U.S.C. 121. The Examiner has formed two groups of claims, the first incorporating claims 1-21 and 27-41, drawn to a shaped article, and the second incorporating claims 22-26 and 42-45, drawn to a method of making a shaped article. The Examiner has asserted that these groups of claims represent distinct inventions and may properly be restricted. Applicants hereby provisionally elect claim group one, directed to claims 1-21 and 27-41 for examination. However, the restriction requirement is traversed. It should be noted, the Commissioner may statutorily require the election of inventions "[i]f two or more independent and distinct inventions are claimed in one application." In the instant case the Examiner is alleging that the inventions of groups one and two are distinct, although absolutely no showing of such distinctness has been made.

The Examiner's attention is directed to 37 C.F.R. 1.141(b) where allegedly different classes of inventions may be included and examined in a single application provided they are so linked as to form a single inventive concept. Please note that claims for a product are specifically authorized for examination together with claims for one process specially adapted for the use of that product. This is exactly the type of case for which the rule was promulgated, i.e., to avoid burdensome and unnecessary restrictions. It is also asserted that the requirement to restrict the present application would be an unnecessary burden upon the Applicants and the Examiner's failure to follow the mandates of the statute and regulation would be a denial of due process. For these reasons it is respectfully urged that the restriction requirement be rescinded.

In addition since the method claims contain all of the limitations of the article claims, the method claims should be rejoined under *In Re Ochiai* 37 USPQ2d 1127 and *In re Brouwer* 37 USPQ 1663.

The Examiner has provisionally rejected claims 1-12, 14-15, 17, 19-20, 27-31, 33-34, 36, 38-39 and 41 on the ground of non-statutory, obviousness-type double patenting over claims 1-49 of copending Application 10/783,357. The Examiner has also provisionally rejected claims 1-15, 17-20, 27-34, 36-39 and 41 on the ground of non-statutory, obviousness-type double patenting over claims 1-61 of copending Application 10/783,355. It is respectfully submitted that each of these rejections are overcome by the terminal disclaimers being filed herewith. Accordingly, it is requested that the rejection be withdrawn.

The Examiner has rejected claims 4, 34, 39 and 41 under 35 U.S.C. 112, second paragraph, as indefinite. It is respectfully submitted that the rejection has been overcome by the instant amendment.

The Examiner has rejected claim 4 for vagueness. To clarify, claim 4 has been amended to depend from claim 1 instead of claim 2. The Examiner has rejected claims 34 and 39 for vagueness. Claims 34 and 39 are hereby canceled. The Examiner has rejected claim 41 for lack of antecedent basis for the phrase "inner fluoropolymer layer". Claim 41 is hereby canceled. It is respectfully submitted that each of the 35 U.S.C. 112 rejections have been overcome and it is requested that the rejection be withdrawn.

The Examiner has rejected claims 1-21 and 27-41 under 35 U.S.C. 103(a) over U.S. patent 5,139,878 (Kim et al.) in view of U.S. patent application 2001/0049408 to Jing. It is respectfully submitted that the rejection has been overcome by the instant amendment. The claims have been amended to specify that the shaped articles of the invention are for storage of liquid food products, solid food products, medical products or pharmaceutical products. The proposed combination of the Kim et al. and Jing references fails to teach or suggest the presently claimed invention.

The invention provides a shaped article for storing liquid food products, solid food products, medical products or pharmaceutical products, the shaped article being formed

from a multilayer inner fluoropolymer layer/ adhesive tie layer/ outer thermoplastic polymer layer structure, which adhesive tie layer comprises a combination of at least one tackifier, at least one ethylene/alpha-olefin copolymer and optionally at least one styrenic block copolymer. The invention also provides a shaped article for storing liquid food products, solid food products, medical products or pharmaceutical products, the shaped article being formed from a different multilayer structure which comprises an inner poly(chlorotrifluoroethylene) layer / adhesive tie layer/ polyethylene layer/ polymer layer structure. Also provided is a shaped article for storing liquid food products, solid food products, medical products or pharmaceutical products, the shaped article being formed from another different multilayer structure which comprises a first outer thermoplastic polymer layer/ first adhesive tie layer/ central fluoropolymer layer/ second adhesive tie layer/ second outer thermoplastic polymer layer structure. Also provided is a shaped article for storing liquid food products, solid food products, medical products or pharmaceutical products, said shaped article being formed from still another different multilayered structure which comprises a first outer polyethylene layer/ a first adhesive tie layer/ a central poly(chlorotrifluoroethylene)/ a second adhesive tie layer/ a second outer polyethylene layer structure. The adhesives that are employed are useful in adhering layers of dissimilar polymeric materials that are otherwise incompatible and achieve a significantly improved interlayer bond strength between a fluoropolymer layer and a thermoplastic polymer layer.

Kim et al. teaches multilayer film structures comprising at least one fluoropolymer film, at least one thermoplastic polymer film, and at least one adhesive layer selected from the group consisting of alkyl ester copolymers of an olefin and an α,β -ethylenically unsaturated carboxylic acid, modified polyolefins comprising an olefin and a functional moiety selected from the group consisting of unsaturated polycarboxylic acids and acid anhydrides, and blends of the alkyl ester copolymers and the modified polyolefins. These adhesive compositions are different than the adhesives described by Applicants' claimed invention. Particularly, as the Examiner acknowledges, Kim, et al. fails to teach an adhesive composition that includes a tackifier. The Kim, et al. reference also fails to

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teach an adhesive composition that includes a styrenic block copolymer. In the independent claims, a styrenic block copolymer is an optional component of the adhesive compositions of the claims, while the styrenic block copolymer is a required element in several dependent claims.

The Examiner directs the Applicants particularly to the disclosure at col. 4, line 64 – col. 5, line 12 of Kim et al. for disclosure of a styrenic block copolymer component of their adhesive composition. However, the materials from col. 5, lines 53-59 are not block copolymers, but rather, are random copolymers. More particularly, the random copolymers the Examiner points to are diene rubbers, not styrenic block copolymers. These random copolymers have different properties than block copolymers and are not mere substitutes for one another. For example, random copolymers and block copolymers have different thermal behavior, wherein block copolymers exhibit an order-disorder transition and random block copolymers do not. More importantly, random copolymers have poor compatibility with ethylene/α-olefin copolymers. In contrast, styrenic block copolymers have good compatibility with ethylene/α-olefin copolymers. It is respectfully submitted that one skilled in the art would not look to the different random copolymers of Kim et al. to arrive at the adhesive compositions of the claimed invention which include styrenic block copolymers having significantly different properties.

As stated above, the Examiner acknowledges that Kim, et al. fails to teach an adhesive composition that includes a tackifier. To fill this void, the Examiner looks to the disclosure of U.S. patent application 2001/0049408 to Jing, which describes compositions useful for bonding fluoropolymers to substantially non-fluorinated polymers. In the first instance, it is respectfully submitted that Jing applies to a non-analogous art that one skilled in the art would not look to in combination with the Kim et al. reference. Jing applies to the formation of structures useful as automobile components, such as fuel line hoses and retroreflective sheeting materials, and bottles or containers for holding chemicals, such as fuel tank constructions. Jing does not teach that their articles are useful in the storage or packaging of human or animal ingestible goods.

It is submitted that one skilled in the art would not look to Jing in combination with Kim, et al. to form the shaped articles of the invention.

The Jing reference recognizes the known difficulty in the art of attaching fluoropolymer containing film layers to non-fluoropolymer containing film layers due to the incompatibility of the differing materials. To solve this problem, Jing teaches the addition of an organo-onium catalyst, such as phosphonium compounds, into their non-fluoropolymer containing layer. Jing also teaches that in addition to an organo-onium catalyst, their compositions may further include one or more tackifiers to improve interlayer adhesion. The Examiner argues that one skilled in the art would look to the disclosure of a tackifier in Jing in combination with the disclosure of Kim et al. to arrive at the presently claimed invention. It is respectfully submitted that such is incorrect. The Jing reference describes a page 4, paragraph [0042] that in addition to their aliphatic di- or polyamine and organo-onium catalyst, their second layer may further contain a tackifier. Accordingly, Jing teaches the use of a tackifier together with an organo-onium catalyst to adhere fluoropolymer film layers with non-fluoropolymer film layers. However, it is respectfully urged that the required organo-onium compounds described in Jing, such as phosphonium compounds, in and of themselves (as per their MSDS data sheets) are well known as being fatally toxic or causing irritation and possible burns upon contact with human skin, and are known to emit toxic fumes under fire conditions. For this reason alone, it is asserted that films containing the organo-onium compounds of Jing are unsafe for use in shaped articles for storing liquid food products, solid food products, medical products or pharmaceutical products. Specifically, the disclosure of Jing teaches away from the proposed combination of Kim et al. to form the shaped articles of the invention. Moreover, there is simply no teaching or suggestion in either reference allowing the proposed combination of references.

In establishing a *prima facia* case of obviousness under 35 U.S.C. 103, it is incumbent upon the Examiner to provide a reason why one having ordinary skill in the art would have been led to combine references to arrive at the claimed invention. The requisite

motivation must stem from some teaching, suggestion or interest in the prior art as a whole or from knowledge generally available to one having ordinary skill in the art. See *Uniroyal, Inc. v. Rudkin Riley, Corp.*, 837 F. 2d 1044, 5 USPQ 2d 1434 (Fed. Cir. 1988); *Ashland Oil, Inc. v. Delta Resin And Refractories, Inc.*, 776 F. 2d 281, 227 USPQ 657 (Fed. Cir. 1985).

Where claimed subject matter has been rejected as obvious in view of prior art references, a proper analysis under 35 U.S.C. 103 requires consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or article or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out the claimed invention those of ordinary skill would have a reasonable expectation of success. See *In Re Dow Chemical Company* 837 Fed. 2d 469, 473, 5 USPQ 2d 1529, 1531 (Fed. Cir. 1988). Both the suggestions and the reasonable expectation of success must be found in the prior art, not in Applicant's disclosure.

Applicants respectfully assert that such a suggestion and/or reasonable expectation of success could not be found in the cited references. Neither Kim et al. nor Jing, taken singularly or in combination, teach or suggest the claimed subject matter. Specifically, the applied references neither anticipate or suggest a shaped article for storing a product formed from a multilayer structure comprising an inner fluoropolymer layer and an outer thermoplastic polymer layer which are joined by an intermediate adhesive tie layer which comprises a combination of at least one tackifier, at least one ethylene/alpha-olefin copolymer and optionally at least one styrenic block copolymer. Further, neither of the cited references disclose shaped articles formed from such a multilayered film and further having the limitations of the dependent claims.

The Patent and Trademark Office Board of Appeals and Interferences stated the following in *Ex parte Clapp*, 227 USPQ 972 (1985), at page 973:

Presuming arguendo that the references show the elements or concepts urged by the Examiner, the Examiner has presented no line of reasoning, and we know of none, as to why the artist when viewing only the collective teachings of the references would have found it obvious to selectively pick and choose various elements and/or concepts from the several references relied on to arrive at the claimed invention. In the instant application, the Examiner has done little more than cite references to show that one or more elements or some combinations thereof, when each is viewed in a vacuum, is known. The claimed invention, however, is clearly directed to the combination of elements. That is to say, applicant does not claim that he has invented one or more new elements but has presented claims to a new combination of elements. To support the conclusion of the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination where the Examiner must present a convincing line of reasoning as to why the artist would have found the claimed invention to have been obvious in light of the teaching of the references.

With the above directives, consideration must be given as to whether the combination of references in the manner set forth in the Office Action is proper to render the applicant's invention obvious in view thereof.

As set forth hereinabove, Applicant's respectfully assert that the references do not teach or suggest the combination as set forth in the claims, as is evident from the plurality of differences between applicant's invention and the cited art. Again, the combination of references must teach the claimed combination to render applicant's claimed invention obvious under 35 U.S.C. 103. Furthermore, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Likewise, the belief that one skilled in the art could form the claimed shaped article does not suggest that one should form such an article to obtain the disclosed benefits. It is respectfully submitted that the Examiner has applied an improper standard of patentability.

Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270

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F.2d 810, 123 USPQ 349 (CCPA 1959). Accordingly, it is asserted that the incorporation of the organo-onium catalyst together with the tackifier of Jing into the adhesive layer of Kim et al. would render the Kim et al. films unsuitable for use in shaped articles for storage of liquid food products, solid food products, medical products or pharmaceutical products. The proposed combination of references is therefore improper.

It is further respectfully asserted that the invention as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schneck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983). Accordingly, it is respectfully submitted that Jing fails to overcome the deficiencies between Kim et al. and the claimed invention. As such, it is respectfully submitted that neither of the Kim et al. or Jing references, either alone or in combination, teach or suggest the claimed invention. For these reasons, it is respectfully submitted that the rejection is improper and should be withdrawn. Such action is requested.

The undersigned respectfully requests re-examination of this application and believes it is now in condition for allowance. Such action is requested. If the examiner believes there is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

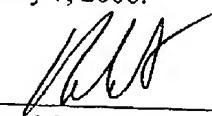
Respectfully submitted,



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~~CONFIDENTIAL~~

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office (FAX No. 571-273-8300) on February 7, 2006.



Richard S. Roberts
Reg. No. 27,941

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Material Safety Data Sheet

Tetrabutylphosphonium bromide, 98%

ACC# 56219

Section 1 - Chemical Product and Company Identification

MSDS Name: Tetrabutylphosphonium bromide, 98%
Catalog Numbers: AC183010000, AC183010250, AC183011000
Synonyms: Tetra-N-butylphosphonium bromide

Company Identification:

Acros Organics N.V.
 One Reagent Lane
 Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTRAC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
3115-68-2	Tetrabutylphosphonium bromide	98	221-487-8

Hazard Symbols: XN

Risk Phrases: 21 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to cream crystalline powder. **Hygroscopic.** **Caution!** Causes severe eye and skin irritation. Harmful if swallowed. May be fatal if absorbed through the skin. Toxic. May be harmful if inhaled.

Target Organs: No data found.

Potential Health Effects

Eye: Causes severe eye irritation and possible burns.

Skin: May be fatal if absorbed through the skin. Causes severe skin irritation and possible burns.

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.

Inhalation: May be harmful if inhaled. Causes irritation of the mucous membrane and upper respiratory tract.

Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Get medical aid immediately. Remove from exposure to fresh air immediately. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Wash area with soap and water. Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Keep from contact with moist air and steam. Do not breathe dust or fumes.

Storage: Keep containers tightly closed. Store protected from moisture. Store in a cool, dry area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Tetrabutylphosphonium bromide	none listed	none listed	none listed

Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: No data available.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: No data available.
Physical: No data available.
Other: None.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	TOXIC SOLIDS, ORGANIC, N.O.S.				No information available.
Hazard Class:	6.1				
UN Number:	UN2811				
Packing Group:	III				

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 3115-68-2 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

